RAIL VISION

April 10, 2017
Joint Meeting of the MassDOT Board and the FMCB

massDOT
Massachusetts Department of Transportation

Rail Vision Purpose and Need

- Commuter rail infrastructure represents significant share of MBTA infrastructure and assets
- 9% of MBTA passenger trips are on commuter rail, with overwhelming majority of trips are made during peak commuting hours and in peak direction
- Current service limits potential to
  - grow ridership at off-peak times
  - encourage reverse commuting
  - provide frequent connections between Gateway Cities and Boston
- In some cases infrastructure is a barrier to more or different service

➔Before the process begins to procure a new operating contract, the MBTA should determine how it can best leverage the system's assets to provide better service to more customers

Key Questions

1. What does the market look like over the long-term?
2. What potential types of service could respond to this market?
3. What type of fleet would be necessary to optimize the existing network or deliver new types of service?
4. What upgrades to signals, station platforms, other infrastructure would be required for new service?
5. What portions of the network, if any, should be electrified?
6. Where and under what service models should new stations be considered?

PROPOSED SCOPE (PHASE I)

Phase I

Task 1: Review of Previous Studies and Data Collection

Task 2: Future Market Analysis

- Population/employment trends
- Land use patterns
- First mile/last mile transportation
- Barriers to driving

Task 3: Peer market Comparison

Task 4: Identification of Potential service models

Task 5: Ridership and Operating Cost Implications

Task 6: Capital investment necessary to support alternatives

Phase I

Task 1: Review of Previous Studies and Data Collection

Task 2: Future Market Analysis

- Population/employment trends
- Land use patterns
- First mile/last mile transportation
- Barriers to driving

Task 3: Peer market Comparison

Task 4: Identification of Potential service models

Task 5: Ridership and Operating Cost Implications

Task 6: Capital investment necessary to support alternatives

Peer Market Comparison

- North American (NYC, Chicago, Philadelphia, Toronto)
- European (London, Paris, Berlin)
- Collect information on urban population, rapid transit network, regional rail network and service model, station area population and employment, ridership, barriers to driving

MTA Metro-North Railroad

RER

Metra

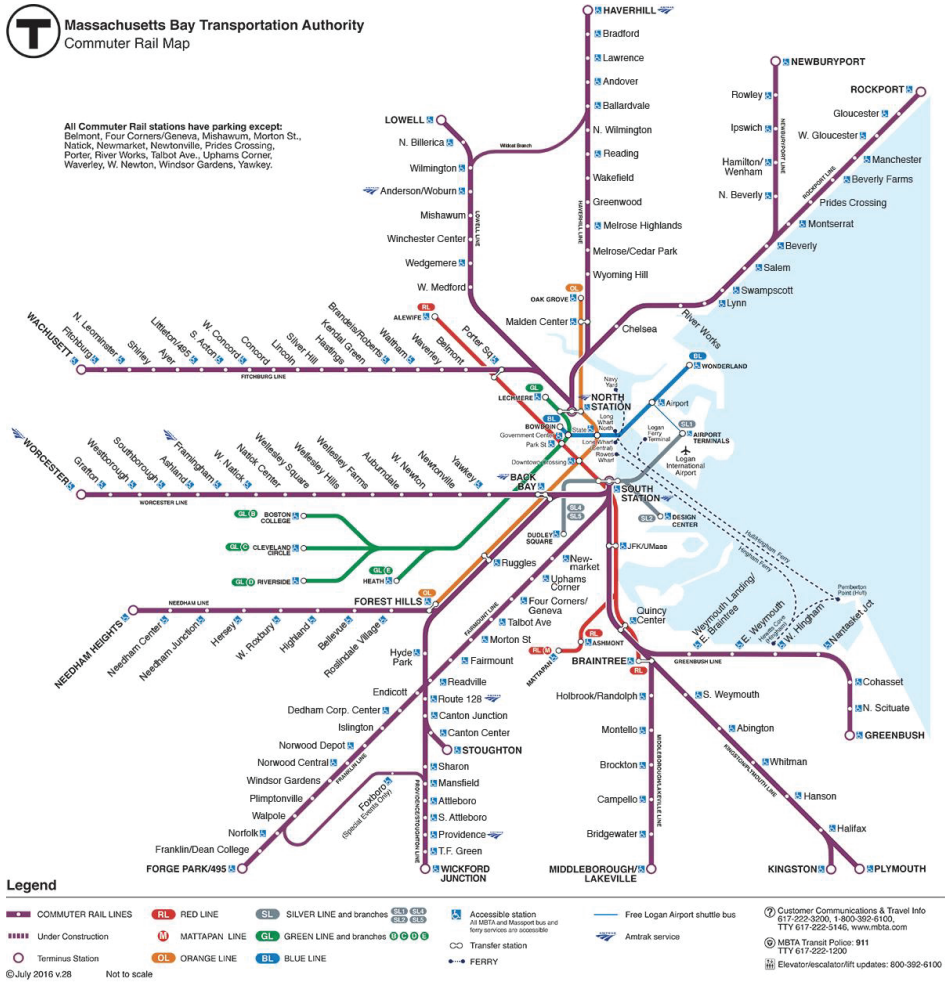
S Bahn Berlin

OVERGROUND

massDOT Massachusetts Department of Transportation

Identification of Potential Service Models (possibly to include):

- Urban Rail
- Commuter
- Forced transfer/hybrid model
- Suburban/Gateway City express
- Regional Rail
- Role in supporting MBTA SGR



massDOT
Massachusetts Department of Transportation

Phase I

Task 1: Review of Previous Studies and Data Collection

Task 2: Future Market Analysis

Task 3: Peer market Comparison

Task 4: Identification of Potential service models

Task 5: Ridership and Operating Cost Implications

Task 6: Capital investment necessary to support alternatives

- Electrification
- Vehicle technology
- Right of way
- Layover needs
- Terminal capacity
- Infill stations/Geographic expansion
- Station upgrades

massDOT
Massachusetts Department of Transportation

Proposed Duration/Budget (Phase I)

- 12 month study
- $750,000 - $1 million
- Led by OTP, supported by Railroad Ops

SUBSEQUENT PHASES

Subsequent Phases

- Broader stakeholder discussion designed to build consensus around desired future operating model (or combination of models)
- Full systems simulation analysis conducted for potential alternatives
    - Both internal and external (consultant) existing conditions simulation models exist for the network
    - Assumptions in these models would need to be revisited
    - Any options requiring new infrastructure (electrification, infill stations, etc) would require additional refinements
- Cost estimates/timeline for infrastructure upgrades developed

These tasks could be included in this scope, but would extend the duration of the project by at least six months and would represent significant increase in budget